

Referring now more particularly to Figure 6, there is illustrated in schematic form and in partial cross-section a completed self-cooling beverage system constructed in accordance with the principles of the present invention. As is therein shown the system 110 includes the beverage can 112 having a bottom 114 and a top 116. The beverage can 112 contains a beverage 118. A heat exchange unit 122 having a valve cup 124 including a valve 125 disposed therein and having a button 126 which may be depressed to activate the valve is provided. The bottom 114 of the can 112 has an opening and a downwardly depending flange 128 which is sandwiched between the upper end 132 of the heat exchange unit 122 and the valve cup 134. As above-described an appropriate elastomeric washer is disposed between the surfaces of the flange 128 and the valve cup and heat exchange unit to effect the desired seals. A protective cap 136 is disposed over the valve 125 and is held in place by snapping the same downwardly through the utilization of an appropriate retaining clip 138. When the upper surface of the protective cover 136 is depressed downwardly it will pivot about the point of connection and contact the button or plunger 126 activating the valve 125 to release the refrigerant contained within the heat exchange unit 122. If the heat exchange unit utilizes a carbon carbon-dioxide system as above described then the appropriate heat sink 140 is disposed internally of the heat exchange unit 122 and is in the form of a plurality of ribs 142 through 148 which converge at a central point 150. Each of the ribs is in contact with the inner wall of the HEU 122 and conducts the heat contained within the beverage 118 internally through the carbon so that it may be exhausted upwardly through the valve 125 with the escaping carbon-dioxide gas. Obviously, the heat exchange unit and the refrigerant may take many other forms and may also be replaced by an exothermic reaction system without departing from the spirit or scope of the present invention which is directed to the manner of attaching the heat exchange unit to the bottom of the food or beverage container.

In the Claims:

Please amend claims 17 and 18 as follows:

17 (Amended) A container having a heat exchange unit therein for cooling a beverage comprising:
an outer unitary vessel for containing said beverage and having an open top and a closed bottom;